PFRP

Pelagic Fisheries Research Program

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July–September 2000

MHLC Assesses Science and Costs of Migratory Stock Management

John Sibert

The sixth session of the Multilateral High-level Conference on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific (MHLC6) concluded April 19, 2000. This session clarified how the new Commission will conduct scientific research, and also began, for the first time, to seriously address the issue of the costs of management of highly migratory fish stocks (HMS). As envisaged by the MHLC, the requirements for scientific research in support of HMS management by the Commission are formidable, and woven into the fabric of the draft convention.

The Challenge for Scientists

The area to be covered by the convention will likely include most of the Pacific Ocean west of 150° or 130° east longitude, although specific boundaries are still under negotiation. Regardless of the boundaries of the Commission, the draft convention intends that management measures be applied throughout the range of migratory fish stocks in order to ensure conservation of the stocks in their entirety. The task of scientists will be to provide information on fisheries and the resources on which they depend that occur throughout the Pacific Ocean—the largest single feature on the planet.

This scientific information will be used to determine stock-specific reference points and management action to be taken if these reference points are exceeded. The species to be considered are those listed in the United Nations Convention on the Law of the Sea (except sauries). Conservation of non-target and associated or dependent species (NTADs), including non-fish species and other by-catch, is also a goal of the convention. In addition, social

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IATTC Tags Bigeye Tuna in EPO

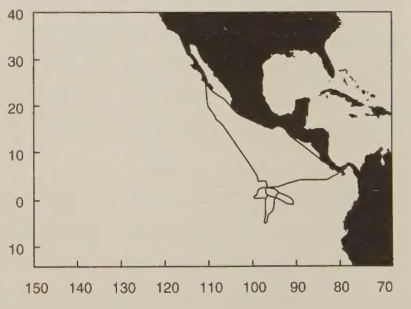
Kurt Schaefer

The Inter-American Tropical Tuna Commission (IATTC) conducted a tagging cruise aboard the pole-and-line vessel Her Grace in the equatorial Eastern Pacific Ocean west of the Galapagos Islands in March, April and May 2000. The primary objective of the cruise was to determine whether large numbers of small bigeye tuna (<100 cm) associated with fish-aggregating devices can be caught by pole-and-line fishing for tagging. The ultimate objective was to obtain data with which to estimate critical life-history parameters, such as stock structure, growth, and mortality of bigeye in the Eastern Pacific Ocean.

While Juan Gracia (L) injects the fish with oxytetracycline, the IATTC's Kurt Schaefer inserts an archival tag into one of 96 bigeye tagged this spring.

Unfortunately, small bigeye were not located in significant numbers during this cruise. The scarcity of the fish in the area was confirmed by radio reports from nearby purse-seine vessels, as well as by the size of the fish landed by these vessels.

The secondary objective of the cruise was to capture and release bigeye with archival tags. This objective was met, as 96 bigeye, ranging in length from 88 to 134 cm, were released with archival tags surgically implanted in their abdominal cavities; two green plastic dart tags with reward information were also applied to each fish.



Cruise track for the IATTC tagging cruise of March 1–May 29, 2000.

The IATTC is offering a $500 reward for return of the tags, and will greatly appreciate the cooperation of everyone involved in the catching or processing of the tunas. For more information, contact Kurt Schaefer at kschaefer@iattc.org, or at IATTC, 8604 La Jolla Shores Drive, La Jolla, CA, 92037-1508, (858) 546-7159.

and economic factors and the effects of fishing on the oceanic ecosystem are to be considered in the overall management scheme. Clearly, the research needed to explicitly address these information requirements can only be considered a long-term objective.

To date, the record of scientific achievement in the MHLC region is impressive, but we are a long way from meeting the most basic of the requirements outlined above. Taking the most optimistic view, we will be able to provide preliminary points for three of the principal target species— southern albacore, yellowfin and bigeye— by September 2000 when the MHLC chairman expects to have the treaty open for signing. We may also be able to provide reference points for three NTAD species— blue marlin, swordfish and blue shark. Realistically, however, the southern albacore assessment is out of date, the yellowfin assessment needs scientific review, the bigeye assessment is far from complete, and all three NTAD assessments are based on spotty data. Thus, although we are not completely ignorant of the status of the principal stocks, we have a long way to go before we begin to meet the scientific information requirements embedded in the MHLC convention.

The fact that we are not completely ignorant is due to the long history of collaboration among scientists working in and around the MHLC region— individuals from regional organizations as well as from many of the participants in the MHLC process. The draft convention recognizes this record of achievement and stipulates that these accomplishments should form the foundation of a new research regime created by the MHLC under the Commission.

Sources of Scientific Expertise

The draft convention establishes a two-tiered approach to the provision of scientific information and advice. The first tier is the Scientific Committee to be composed of representatives of each member of the Commission. These representatives "shall have appropriate qualifications or relevant experience in the area of competence of the Committee." Representatives of the Oceanic Fisheries Programme (OFP) of the Pacific Community and the Inter-American Tropical Tuna Commission (IATTC) may be invited to *participate in the work* of the Committee. Other organizations and qualified individuals may be invited to *participate in meetings* of the Committee. The functions of the Scientific Committee are largely advisory. The Scientific Committee will recommend research plans, promote cooperation, review research results, recommend management measures, and report to the Commission. In some ways, the Scientific Committee appears to formalize and sanction many of the activities currently carried out by the completely informal Standing Committee on Tunas and Billfish (SCTB).

The second tier for scientific information and advice is the engagement of scientific experts. The section of the draft convention that deals with this subject (article 13) seems more enabling than prescriptive in its intent; it says the Commission "*may* engage the services of scientific experts" and "*may* enter into administrative and financial arrangements" to secure such services (emphasis added). These experts "*may*" conduct research, develop reference points, assess the status of stocks, and collect, compile and disseminate data. It says furthermore that the Commission should be cost-effective and "*shall* to the maximum extent possible, utilize the services of existing regional organizations" and "*shall* consult with other organizations with the required expertise." This wording does not require the Commission to establish and maintain an independent scientific secretariat, and appears to leave the door open to total dependence on the scientific expertise of Commission members.

The procurement of scientific expertise is an absolutely critical issue. The success of the Commission in developing, implementing and enforcing conservation measures depends completely on the *perceived* objectivity of the Commission's scientific conclusions. The best way for the MHLC Commission to promote both objectivity and the appearance of objectivity is to establish a fully-funded independent scientific secretariat. The alternative is to depend on Commission members for scientific services. Although this arrangement is used by some international fisheries commissions, it all too often leads to situations in which badly needed conservation measures are crippled by disputes among commission members over the credibility of the data or data analysis. This arrangement also puts less developed countries at a further disadvantage by forcing them to depend on developed countries to conduct the scientific business of the Commission.

Costs of Research

The decision about whether or not the MHLC Commission should maintain an autonomous scientific capability depends on the willingness of Commission members to fund scientific services. The MHLC began to look seriously at budgets during MHLC5 in September 1999, when the Chair requested that the Australian delegation prepare a draft budget for the Commission. The Australian budget, tabled at MHLC6, splits scientific services into "basic" scientific services, totaling US$1.8 million in the "core" budget, and "additional" scientific services, totaling US$1.7 million in the "administered" budget. The core budget is to be funded from contributions assessed from Commission members according to a means formula yet to be established. The administered budget is to be funded from charges against fishing activities computed by another yet-to-be-established formula. The total amount budgeted for scientific services in the Australian paper is US$3.5 million, and the total budget of the Commission, including a vessel management system, observers and vessel registry, is US$9.1 million.

A special Budget Working Group (BWG) was convened at MHLC6 to grapple in more detail with the cost of the Commission. The first (and perhaps only) priority of the BWG appears to have been to minimize the assessed contributions of Commission members. The BWG accomplished this by reducing the core budget from the US$3 million indicated in the Australian paper to US$2.2 million. BWG participants reported that this reduction was achieved by reducing the cost of scientific services from $1.8 to $1.0 million. The BWG report makes little mention of other budgetary components, or of the total costs of the Commission. This reduction in the core budget and cost of

scientific services appears to have been a disingenuous move to make the assessed contributions palatable to MHLC participants.

US$3.5 million may sound like a lot of money, but in comparison to the magnitude of the research required to manage fisheries of the scope and scale envisaged by the MHLC convention, it can only be considered picayune. Nearly 20 years ago, the eminent Canadian fisheries scientist Peter Larkin wrote an insightful and possibly prescient analysis of fisheries management institutional structure and costs:

"The cost of this minimal level of management should not exceed 10% of the landed value of the catch. It follows that some fisheries may not be sufficiently valuable to warrant management. For more sophisticated management and research … it is necessary to develop a more comprehensive program that may cost as much as 20% of the landed value of the resource." (Larkin, P. A. 1983)

To paraphrase Dr. Larkin, if a fishery is worth managing, it is appropriate to invest *at least* 10% of the landed value of its catch in research and management. Nobody knows with any certainty the landed value of the catch from Western Pacific highly migratory fisheries, but an estimate of US$2.0 billion would be conservative, and probably not too far off the mark. The Australian draft budget is less than 0.5% of this value. At the other extreme, a budget of US$400 million might be difficult to justify. It is critical to consider what fraction of the revenue generated by this resource should be invested to ensure its sustainability. Is it reasonable to invest only 0.5% of revenues in research and development?

Conclusion

The seventh and final session of the MHLC process is scheduled to take place August 30 through September 5 in Nadi, Fiji. MHLC Chair Satya Nandan feels that agreement is near on most issues and that the Convention will be opened for signature at the end of MHLC7. The structure and funding of scientific services is a key issue that will shape the new Commission and determine whether it will be an effective means to conserve highly migratory fish stocks. A well-funded, fully competent and dedicated scientific secretariat will be essential if the Commission is to have the credibility it needs to manage these fish stocks throughout their vast Pacific ranges.

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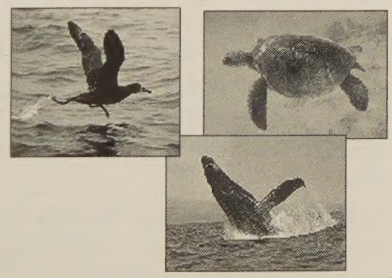
Protected Species Workshops

Beginning in August, the National Marine Fisheries Service (NMFS) is conducting five protected-species workshops for people who make their living on the sea. The workshops will cover identification of protected species, laws and regulations concerning protected species, and techniques to reduce the catch and mortality of protected species like sea turtles and seabirds.



Marine mammals, seabirds, and turtles are among the protected species to be covered in mandatory educational workshops for longline fishermen.

The intended audience for the workshops is vessel owners and operators in Hawai'i's longline fishery, and the objective is to increase fishermen's awareness about interactions with protected species. Based on the proposed actions of the Western Pacific Regional Fishery Management Council, the NMFS is requiring all Hawai'i-permitted longline vessel owners and operators to attend protected species workshops annually in order to receive certification. All Hawai'i-permitted longliners who target pelagic fish such as tuna or marlin will be required to have a protected-species certificate when fishing with longline gear.

Workshop organizer Kathy Cousins hopes the workshops will encourage fishermen to work with the NMFS to reduce protected species hookings and entanglements. A Seabird Coordinator in the NMFS Pacific Islands Area Office, Cousins says the workshops will also teach fishermen how to handle and release protected marine animals in a way that improves their chances of survival.

According to Cousins, the take-home message from the workshop is that longline fishermen should no longer treat interactions between protected species and their fishing gear as a minor problem.

The deadline for reservations is July 7, 2000. The workshops will be held at the U.S. Coast Guard Club 14, on Sand Island Access Road in Honolulu, on August 1, 16 and 30, and September 13 and 27. Hours are 9 a.m. to 4 p.m., reservations are first-come-first-served, and seating is limited to 100 per day. For more information, visit the web page at http://swr.ucsd.edu/paowww.htm

To reserve a spot, phone (808) 973-2935, ext 201, e-mail Georgia.Matsukawa@noaa.gov, or send a letter to the NMFS Pacific Islands Area Office, 1601 Kapi'olani Blvd, Suite 1110, Honolulu, HI, 96814-4700.

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Charter Fishing Patronage in Hawai'i—A Preliminary Analysis of Costs and Values

Ed Glazier

This article reports preliminary results of the Hawai'i Charter Patron Survey 1999–2000. The research is being conducted under PFRP as part of its mission to generate economic and sociological information pertinent to pelagic fisheries management in Hawai'i. Surveys are being distributed to charter fishing patrons to determine their motivations for coming to Hawai'i and going charter fishing, and to assess related expenses, valuation of fishing in dollar terms, and quality of fishing experiences. With direct revenues of $17 million and indirect revenues of up to $30 million (Sharma et al.1999), and some 77,000 anglers participating (Markrich 1990), charter fishing is a notable component of tourism in Hawai'i (see also Hamilton 1998). Surveys will be distributed through this summer, with final analysis to be completed in the fall. Following are preliminary results based on 206 completed surveys returned as of March 2000,[1] and on extensive observations by the author in 1998 and 1999.

Demographics and Decisions

Survey respondents come from many states and a few countries, most visiting in small groups of friends or family. About 25% hail from California, 14% from Japan, 6% from Florida, 5% from Colorado, 4% each from Texas and Washington, 3% each from Georgia and Canada, and 2% each from Nevada, New York, and Arizona. More than 85% are males, with a mean age of 43. Patrons tend to be well educated (80% hold at least a B.A.), employed in professional positions, and well paid (37% earn $100K or more per year).

About 66% of respondents have previous charter fishing experience, and 80% say they decided to fish in Hawai'i before arriving. However, most report they would come to Hawai'i regardless of fishing opportunities, mainly to enjoy the sun and beaches; only 19% report coming to the islands specifically for fishing.

Sources of information that prompt decisions to fish include magazine ads (29%), advice of friends (25%), internet sites (21%), harbor visits (20%), previous experience (17%), hotel kiosks or activity booths (16%), television ads (15%), tour packages (8%), and charter desks (7%). Factors influencing choice of harbor include close proximity to hotel (important for 50%), general catch reputation (27%), billfish catch reputation (22%), number of available boats (12%) and reputation for calm waters (7%). Regarding choice of a specific boat, the comfort and/or features of the vessel and friendliness of captain and crew were rated highly important by about 47% of respondents, whereas catch-rate reputation and trip costs were rated highly important by only 21% of respondents.

[1] Two versions of the survey are being administered. One focuses on trip cost information, the other on respondent's valuation of the trip and deep-sea fishing generally. Thus, while the overall sample size analyzed herein is 206, some analyses rely on fewer cases. For instance, catch content analysis is based on the reports of 122 respondents taking separate trips. It is expected that final analyses will draw on upwards of 400 completed surveys.

Costs and Values

As might be expected, the cost of getting to Hawai'i is the most significant expenditure for visiting anglers. Patrons report spending an average of $740 for airfare, or $1700 for a package tour that includes airfare. Once in Hawai'i, interisland airfare is the next most significant cost, averaging $118, followed by average lodging costs of $86, car rental costs of $48, and food costs of $45 per day. Charter-fishing-related expenses include the charter trip itself, and extras such as average gratuities of $67, and food and beverages costs of $21.

Charter Fees by Trip Type

Type of Trip	Distribution (N=195)	Mean Fee/ Person*	Mean Total Fee
Half-day	40%	$87	$304
Full-Day	43%	$139	$486
3/4-Day	16%	$149	$521

* Based on a mean of 3.5 persons per party

An important consideration for economists is the degree to which anglers value, in dollar terms, the fishing experience and the chance of catching big fish. The contingent valuation and willingness-to-pay methods do just that. In this case, charter patrons were asked to choose between a hypothetical guarantee of catching a 225-lb marlin or accepting a cash award. More than 95% chose the marlin at award levels of $50, $100, and $250, and 77% at $500. But it appears that money talks at $1,000— only 5.9% chose the marlin at that level! Meanwhile, 58% of respondents say they are willing to pay a license fee of $25, but when the hypothetical fee was increased to $50, the balance shifted and 59% said they would choose not to go fishing rather than pay the higher fee. Interestingly, 66% say their opposition to the license fee is based on ideological rather than economic grounds.

Catching Fish versus Having Fun

"Watching my oldest son land a big mahimahi" . . . "watching my youngest son get seasick!" (One patron's recounting of the most and least desirable aspects of his trip)

Of 122 trips reporting, 84% reported catching some fish, with 327 captured. Of the pelagic species, mahimahi was the most common catch (98), followed by aku (59), ono (54), 'ahi (25), and a'u (22 marlin of all types). Blue marlin led the list of releases (13), and mahimahi were kept most often for consumption (33 at 15 lbs. each, mean weight). The dimensions of only six fish were taken for mounting purposes, including two blue marlin over 500 lbs., a 160-lb. marlin, a 70-lb. hebi (short-billed spearfish), two 35-lb. mahimahi, and a 22-lb. ono.

Patrons were also asked about the most and least desirable aspects of their trips. While not catching fish, or not catching enough fish, was the most frequent choice (28.1%) among the least desirable aspects of the trips, respondents appear to have enjoyed themselves regardless of catch rate; 84% reported they would repeat their charter given the same conditions.

Seasickness obviously can detract from a positive charter fishing experience, yet many anglers return to sea despite a tendency to suffer. Thus there appear to be aspects of charter fishing that, for many anglers, make up for not catching enough fish and/or for dealing with bouts of seasickness. Most notable among these compensators is a positive relationship between patron and captain/crew; this was cited as the most enjoyable experience of the trip by 26.2% of respondents. This finding is supported by numerous personal observations of patrons visibly satisfied by positive interactions with the hosting captain and crew despite catch rates and sea conditions. Respondents also report important collateral benefits of going charter fishing, including "enjoying an adventure," "spending time on the ocean," "getting away from it all," "sharing fun," and "escaping routine."

Future charter-fishing patrons, on the dock in Kona.

Reported Tendency Toward Seasickness		
How often do you get seasick?	Frequency	Percent (N=124)
Never	60	48.4
Sometimes	35	42.7
Always	11	8.9

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Conference Targets Marine Debris

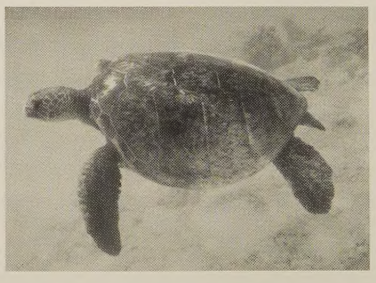
Derelict fishing gear, particularly from North Pacific fisheries, harms marine wildlife, coral reefs and other marine ecosystems throughout the world's oceans, creating negative ecological, economic, social and political implications.

In an unprecedented cooperative endeavor, representatives from diverse public and private entities are joining forces in Hawai'i this summer to take stock of the situation and develop a course of remedial action for gear lost or abandoned in the Pacific Ocean.

They will gather at the International Marine Debris Conference August 6 to 11, 2000 at the Hawai'i Convention Center in Honolulu, Hawai'i, USA. The conference is sponsored by the National Oceanic and Atmospheric Administration's Hawaiian Islands Humpback Whale National Marine Sanctuary. Its aim is to assess the sources, volume and impacts of derelict gear in the Pacific and develop means by which to control it.

Conference speakers include NOAA Director Dr. James Baker, ocean explorer Jean Michel Cousteau, U.S. Senators Daniel Inouye and Daniel Akaka, U.S. Congressman Neil Abercrombie, and other distinguished guests.

Conference contributors include the U.S. National Oceanic and Atmospheric Administration, National Marine Fisheries Service, National Ocean Service, National Marine Sanctuary program, and Coast Guard, as well as the Western Pacific Regional Fisheries Management Council, Hawai'i Sea Grant College, the Hawai'i Department of Land and Natural Resources Coastal Zone Management Program, the Center for Marine Conservation, the City and County of Honolulu, and the Hawai'i Audubon Society.



Sea turtles are among the marine wildlife most often harmed by derelict fishing gear.

Questions regarding the conference can be directed to: International Marine Debris Conference c/o the Maui Pacific Center, 590 Lipoa Parkway, Suite 202, Kihei, Hawai'i, USA 96753. Or you can call (808) 875-2317, or fax (808) 875-2306. You can also e-mail questions to info@mauipacific.org, or visit the Conference homepage at http://www.hihwnms.nos.noaa.gov. Poster presentations and information can also be found at this homepage.

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Charter Fishing Patronage (continued from page 5)

Satisfied Patrons and a Healthy Charter Fleet

According to anglers who have responded to the survey thus far, Hawai'i scores quite favorably relative to other charter fishing destinations, with a mean rating of 7.43 on a scale of 1 to 10. Preliminary analysis suggests that in a climate of diminishing ocean resources (as commonly perceived by charter captains) and competing motives (including commercial, personal consumption, and recreational fishing), charter operators in Hawai'i are treating their customers well and are providing them with satisfying experiences even when fish are absent.

As indicated in the contingent-valuation and willingness-to-pay exercises, catching fish is highly valued by anglers. When catching fish occurs in conjunction with good relations during a charter, a positive experience is magnified. But a positive experience can be had regardless of catch, and if the relations between hosts and guests are successful, and enjoyment is undiminished by seasickness, return business and positive word-of-mouth advertisement are virtually guaranteed.

Personal observation suggests that fishing knowledge and good humor on the part of captain and crew, as well as the ability to teach with patience and respond calmly in the midst of challenging situations, are essential to successful charter operations in Hawai'i. I was impressed, for instance, during a charter trip along the Kona Coast, with a deckhand's ability to communicate with a Japanese angler who knew no English. The deckhand would look the angler in the eye, use hand gestures, smile, and do whatever was necessary to make sure the man understood how to operate the gear, but without losing patience. When the time came to reel in a fish, the angler was ready, and visibly overjoyed as he landed the creature.

While critical to an understanding of the charter industry generally, interactions between visiting anglers and hosting captains and crews have broader implications for Hawai'i's tourist economy. Charter operations that manage to provide positive charter trips for visitors under any conditions enhance at least one experience of travelers who typically come to Hawai'i to satisfy various recreational motives. In so doing, a healthy future for charter fishing in Hawai'i is ensured, and economic uncertainty in at least one component of Hawai'i's multi-faceted tourism industry is diminished. Additional analysis will further elucidate the characteristics and experiences of charter patrons engaging in this unique and valued activity in Hawai'i's vast offshore realm.

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Economic Contributions of Hawai'i's Marine Fisheries

P.S. Leung and K.R. Sharma

Marine fisheries in Hawai'i are linked with other sectors of the state's economy in two ways. First is through procurement of inputs such as bait, fuel and supplies. Thus, the final demands for fisheries products and services contribute to income, employment, output and value-added (gross state product) in sectors supplying these inputs. "Backward linkages" is the economic term describing measures of impacts on the economy that arise from delivery of fishery products and services to final consumers.

Second, fisheries provide inputs (fish) to non-fishery sectors such as food processors, restaurants and hotels. The extent to which fisheries provide these inputs to other sectors can be described by "forward linkages." Measures of these backward and forward linkages show the interdependence between fisheries and various other sectors in the economy. "Economic Contributions of Hawai'i's Marine Fisheries" is a current PFRP project that uses Input-Output (I-O) analysis to trace these backward and forward linkages among economic activities.

This PFRP project integrates the recent baseline cost-earnings data of Hawai'i's commercial, recreational/expense, and charter fleets into the 1992 Hawai'i State I-O model to estimate the fleets'

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output, income, value added and employment contributions to the state economy. Most of the data for this study are gathered by the Hawai'i Fishing Industry and Vessel Economics project (HIFIVE– another PFRP project). The modified I-O table contains 72 industry sectors; 68 are non-fishery sectors and four are fishery sectors, namely longline, charter, recreational/expense and other commercial (i.e. troll and handline, aku boats, bottom fish, lobster, and others).

In 1992, Hawai'i's fisheries altogether generated $98.2 million of output, $33.2 million of labor income, and $37.1 million of value-added; the fisheries also generated 1,426 jobs. When fishery trade margins and fishery distribution margins were included, fisheries contributed to about $118.8 million of output, $34.3 million of labor income, $45.1 million of value-added, and 1,469 jobs. Table 1 shows the breakdown of contributions by fishery sectors, and fishery trade and distribution margins, as well as their relative shares of Hawai'i's economy. Interested readers can refer to JIMAR Report 99-327 for additional details.

The authors work in the Department of Agricultural and Resource Economics at the University of Hawai'i at Manoa; Leung is a professor, and Sharma a graduate assistant.

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Table 1. Output, income, value-added (GSP), and employment contributions of fisheries final demands and distribution margins

Output (1992, in millions of $)	**Total**	**% of Hawai'i total**
Longline fishery	31.66	0.07
Other commercial fishery	11.93	0.03
Charter fishery	27.48	0.06
Recreational/expense fishery	41.22	0.09
Fisheries distribution margins	6.50	0.01
Total	118.79	0.25
Labor income (1992, in millions of $)		
Longline fishery	12.83	0.06
Other commercial fishery	4.02	0.02
Charter fishery	9.51	0.05
Recreational/expense fishery	5.14	0.03
Fisheries distribution margins	2.79	0.01
Total	34.29	0.17
Value-added (GSP) (1992, in millions of $)		
Longline fishery	15.47	0.05
Other commercial fishery	5.02	0.02
Charter fishery	12.12	0.04
Recreational/expense fishery	8.10	0.03
Fisheries distribution margins	4.37	0.01
Total	45.07	0.15
Employment (number of jobs)		
Longline fishery	409	0.05
Other commercial fishery	229	0.03
Charter fishery	525	0.07
Recreational/expense fishery	178	0.02
Fisheries distribution margins	128	0.02
Total	1,469	0.19

Tournament-Tagged Marlin to be Tracked with Satellites

Publicly funded wildlife research took center stage in June in the waters off the Kona Coast, when the Maui Jim Hawai'i Marlin Tournament Series resumed its tour with the 14th Annual Big Island Invitational Marlin Tournament (BIIMT) on June 14.

Most tournament briefings are fairly mundane affairs, but that changed in Kona as the BIIMT launched phase one of "Lure an Angler to Research," an ambitious program sponsored by the Hawai'i Conservation Association (HCA), the Maui Jim Hawai'i Marlin Series, the National Marine Fisheries Service (NMFS), and corporate sponsors. All anglers entered in the tournament had the chance to contribute to fisheries research by attaching pop-off archival tags to landed marlin, then setting them free.

The cooperative program is being supervised by Richard Brill, of the NMFS Honolulu office, and Australian marine biologist and Ph.D. candidate Andrew West, with help from the HCA.

The objective is to tag strong, healthy marlin between 200 and 300 pounds so that data can be collected and analyzed to determine the marlins' tracks after release. The plan is to display the tracks on ESPN 2 and the World Wide Web, which organizers say has never been done in the Pacific, much less in a tournament in which caught marlin might be worth $200,000 in prize money.

Tournament-caught marlin could aid fisheries research.

The HCA and the Maui Jim Series established "Lure an Angler to Research" and the second phase of the project, "Track a Marlin," as a year-round program.

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Tournament-Tagged Marlin (continued from page 7)

Organizers say the Series provides the number of boats needed to catch and tag an unprecedented number of Marlin between May and December. In the non-tournament season, HCA will work with organizations including the U.S. Fish and Wildlife Service to tag and release marlin around Pacific atoll wildlife preserves.

Organizers say they hope the Maui Jim Series will establish an effective research partnership of sporting anglers, scientists, government agencies and corporate sponsors to increase the volume of data needed to more effectively manage marlin populations.

Check out the Maui Jim Series web site at http://www.konatournaments.com, and watch ESPN 2 on July 12 and/or July 23 to find out more. Or to inquire directly, e-mail Jody Bright at tropdil@aloha.net, or call HCA at (808) 331-1191, or the Maui Jim Tournament Series at (808) 327-1440.

PFRP Pelagic Fisheries Research Program

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